



**PRODUCT MANUAL
FOR COPPER SULPHATE
ACCORDING TO IS 261:1982**

This Product Manual shall be used as reference material by all Regional/Branch Offices & licensees to ensure coherence of practice and transparency in operation of certification under Scheme-I of Bureau of Indian Standards (Conformity Assessment) Regulations, 2018 for various products. The document may also be used by prospective applicants desirous of obtaining BIS certification licence/certificate.

1.	Product	:	IS 261:1982
	Title	:	COPPER SULPHATE
	No. of Amendments	:	1
2.	Sampling Guidelines:		
a)	Raw material	:	No specific requirement
b)	Grouping guidelines	:	NA
c)	Sample Size	:	500g
3.	List of Test Equipment	:	Please refer ANNEX – A
4.	Scheme of Inspection and Testing	:	Please refer ANNEX – B
5.	Possible tests in a day :		
	(i) Description		
	(ii) Copper content		
	(iii) Matter insoluble in water		
	(iv) Soluble iron and Aluminum		
	(v) pH		
	(vi) Chloride		
	(vii) Lead and Zinc		
6.	Scope of the Licence :		
	“Licence is granted to use Standard Mark as per IS 261:1982 with the following scope:		
	Name of the product	Copper Sulphate	
	Grade	Technical/Pure	

**ANNEX-A
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List of Test Equipments

Major test equipment required to test as per the Indian Standard.

S.No.	Test Equipment/Chemicals/Glassware	Test used in with Clause Reference
1.	a) 1 mm Sieve b) Glass stoppered Bottle	Sample Preparation, cl. 3.0
2.	<p style="text-align: center;"><i>Volumetric Method</i></p> a) Weighing Scale b) Sodium Carbonate c) Potassium iodide d) Acetic acid e) Standard sodium thio-sulphate solution-0.1 N f) Starch f) Mercuric Iodide g) Potassium thiocyanate h) Decanter i) Heater <p style="text-align: center;">or</p> <p style="text-align: center;"><i>Electrolytic Method</i></p> a) Dilute Sulphuric acid-33% b) Urea Solution-20% c) Platinum gauze stationary cathode d) platinum gauze rotating anode e) Electro-analyser f) Beaker g) Wash-bottle h) Rectified Spirit i) Sovent ether j) Hot air oven k) Weighing balance	Copper Content, cl. 3.2 & Table 1
3.	a) concentrated Sulphuric Acid b) Filter paper c) Gooch (G No. 4) or sintered Glass crucible d) Hot air oven	Matter Insoluble in Water, cl. 3.2, & Table 1

<ul style="list-style-type: none"> a) Concentrated nitric acid b) Ammonium Chloride c) Dilute Ammonium Hydroxide-15% d) Dilute HCL-33% e) Water bath f) Bunsen Burner 	Soluble Iron and Aluminium compounds (as Fe), cl. 3.2 & Table 1
<ul style="list-style-type: none"> a) pH meter b) Volumetric flask-100ml 	pH Value, cl. 3.2 & Table 1
<ul style="list-style-type: none"> a) Nessler Cylinders-50-ml capacity b) Dilute Nitric Acid-4N c) Silver Nitrate d) Sodium Chloride e) Volumetric flask-1L 	Chlorides, cl. 3.2 & Table 1
<ul style="list-style-type: none"> a) Modified Guzeit Test Apparatus b) Lead acetate c) Acetic acid d) Lead acetate Paper strips-70x50mm size e) Absorbent cotton wool impregnated with lead acetate f) Mercuric Bromide g) rectified Spirit h)Mercuric Bromide Paper Strips-70x50mm size i) Dilute Sulphuric Acid-5N j) Conc HCL k)Stannous Chloride S l)Potassium Iodide m) Zinc Granules-0.5 to 1.0mm n) Arsenic Trioxide o) Sodium Hydroxide p) Volumetric flask-100ml q) Volumetric flask-100ml 	Arsenic, cl 3.2 & Table 1
<ul style="list-style-type: none"> a) Citric Acid b) Dilute Ammonium Hydroxide c) Potassium Cyanide d) Sodium Sulphide 	Lead and Zinc, cl. 3.2 & Table 1

The above list is only indicative and may not be treated as exhaustive

**ANNEX-B
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(SCHEME OF INSPECTION AND TESTING)

- 1. LABORATORY** - A laboratory shall be maintained which shall be suitably equipped (as per the requirement given in column 2 of Table 1) and staffed, where different tests given in the specification shall be carried out in accordance with the methods given in the specification.
 - 1.1** The manufacturer shall prepare a calibration plan for the test equipment.
- 2. TEST RECORDS** – The manufacturer shall maintain test records for the tests carried out to establish conformity.
- 3. PACKING AND MARKING** – The Standard Mark, as given in the Schedule of the licence, shall be indelibly marked on the each container of Copper Sulphate provided always that the product so marked conform to requirements of the specification.
 - 3.1** Packing and marking shall be done as per the provision of IS 261:1982. In addition, the following details shall be mentioned on each container/package:-
 - a) BIS Licence No. CM/L-----.
 - b) BIS website details i.e. –“For details of BIS certification please visit www.bis.gov.in”.
- 4. CONTROL UNIT** – For the purpose of this scheme, the quantity of the material of the same grade produced in a day shall constitute a batch (Control Unit).
- 5. LEVELS OF CONTROL** - The tests as indicated in column 1 of Table 1 and the levels of control in column 3 of Table 1, shall be carried out on the whole production of the factory which is covered by this plan and appropriate records maintained in accordance with paragraph 2 above.
 - 5.1** All the production which conforms to the Indian Standard and covered by the licence should be marked with Standard Mark.
- 6. REJECTIONS** – Disposal of non-conforming product shall be done in such a way so as to ensure that there is no violation of provisions of BIS Act, 2016.

**Table 1 (Levels of Control)
(Scheme of Inspection and Testing)**

(1)				(2)	(3)		
TEST DETAILS				Test equipment requirement R: required (or) S: Sub-contracting permitted	LEVELS OF CONTROL		
Clause	Requirements	Test Method			No. of Samples	Frequency	Remarks
		Clause	Reference				
3.1	Description	3.1	IS : 261-1982	R	One	Each Batch (Control Unit)	
3.2 Table 1	(i) Copper Content	A.2	-- do --	R	One	-- do --	
-- do --	(ii) Matter insoluble in water	A.3	-- do --	R	One	-- do --	
-- do --	(iii) Soluble iron and aluminum Compounds (as Fe)	A.4	-- do --	R	One	-- do --	
-- do--	(iv) pH Value	A.5	-- do --	R	One	-- do --	
-- do --	(v) Chloride (as CL)	A.6	-- do --	R	One	-- do --	
-- do --	(vi) Arsenic (as As ₂ O ₃)	A.7	-- do --	R	One	-- do --	
-- do --	(vii) Lead and Zinc	A.8	-- do --	R	One	-- do --	

Note-1: Whether test equipment is required or sub-contracting is permitted in column 2 shall be decided by the Bureau and shall be mandatory. Subcontracting is permitted to a laboratory recognized by the Bureau or Government laboratories empaneled by the Bureau.

Note-2: Levels of control given in column 3 are only recommendatory in nature. The manufacturer may define the control unit/batch/lot and submit his own levels of control in column 3 with proper justification to BO head.